

December 19, 1932.

Mr. Wm. W. Gallagher, Treas.,  
MacGregor Instrument Company,  
Needham, Mass.

Dear Sir:

Your letter of the 12th inst. received, in which you state you have been informed of our blood transfusion apparatus by Mr. Don Peters. We are complying with your request and sending the instrument under separate cover.

It is desirable that the knowledge of the mechanism and principle of this instrument be limited to as few trustworthy individuals as possible for our protection in the event that other arrangements are made for the disposition of the instrument. However, we prefer that you handle the instrument because of the lowered cost, increased availability to the profession, and your general reputation for reliability.

This instrument, designed by the writers, has proven clinically to be entirely satisfactory and is believed by able clinicians here to be the best and most practical syringe transfusion method at present. We refer you to Dr. Alton Ochsner, professor of surgery, Dr. Roy Turner, assistant professor of experimental medicine, and Dr. P. H. Jones, assistant professor of clinical medicine, all of Tulane University, who have seen the instrument in successful clinical trial.

The model sent you is an improvement on the one shown Mr. Don Peters, and embodies the most efficient method we have been able to devise up to the present. This instrument offers the following salient advantages: (1) It can be manufactured of finest materials at an extremely low cost, enabling a popular selling price; (2) the only breakable and necessarily replacable part, the syringe, is readily available; (3) it is operated by a simple push-pull motion of the syringe piston only; (4) complete instrument consists of four parts readily assembled, requiring no mechanical knowledge; (5) instrument can be packed in a sterilizing case 6" x 2" x 1", offering compactness; (6) fragmentation of R. B. C. by valve mechanism practically negligible; (7) shortest blood course outside of body of any syringe instrument on the market; (8) no dead space in the instrument or valve mechanism, where clotting may initiate; (9) simplicity of operation increases rapidity of flow thus diminishing possibility of clot formation.



## The Instrument.

The instrument consists of a sleeve-valve and a 5 c. c. Sana-lok syringe.

(N. B. We are using the 10 c. c. Sana-lok syringe in the model sent you because it was readily available and still offers the luer-lok attachment. However, since there is a patent on the luer-lok attachment it probably cannot be used in the manufacture of the instrument. Nevertheless, this is a minor difficulty, as any number of satisfactory attachments can be designed and substituted in the manufacture of the apparatus.)

2 The valve consists of a piston containing one port communicating with the syringe tip at its upper end, and a sleeve containing two ports, the upper for the donor and the lower for the recipient. A taper pin through the sleeve and piston limits the up and down motion of the piston and thus insures the accuracy of approximation of the port in the piston with that of the donor in the extreme up position and that of the recipient in the extreme down position.

3 To prevent the possibility of the reversal of flow it is necessary that the valve move before the syringe plunger begins to move in an opposite direction. To insure this a rubber washer rigidly placed at the top of the syringe and tightly surrounding the plunger arm increases the friction of the syringe plunger over that of the sleeve valve. In actual clinical trial this has proven unnecessary in pumping a fluid as viscid as blood. But this safety device acts as an additional guard against this possibility.

4 In order to operate the instrument, after it has been assembled according to directions enclosed in the package, merely clasp the cylinder of the sleeve valve by the left hand and hold steadily and operate the handle of the syringe plunger with the other hand. In use, the cylinder of the sleeve valve is lubricated with sterile mineral oil. The system may be filled with sterile citrate or normal saline before use.

The model in its present form is crude and merely illustrates the principle, but even in its crudeness it has clinically operated successfully. No doubt if you were to undertake the manufacture of the instrument there are certain improvements which you can institute.

*Also to guard against this possibility the syringe barrel (Pipette on the 5-c.c. model) may be used to operate the valve, while the thumb moves the plunger. This makes it absolutely fool-proof.*



We would appreciate your comments, whether favorable or unfavorable, after you have had an opportunity to examine and test this instrument. We trust that you will be impressed with the utility of this instrument and that you will favor us with your comments in the near future.

Awaiting your response, we are

Yours very truly,

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M. E. DeBakey, M.D.

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Wm. G. Gillentine, M.D.

*Handwritten notes at the bottom of the page:*  
If 10 cc have left in  
Neph - 20 cc



Apply for patent immediately  
in our name  
and advise us